

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

Claims 1-33 (Cancelled)

34. (Currently Amended) An isolated human (SEQ ID NO: 14), mouse (SEQ ID NO: 16) or *D. melanogaster* (SEQ ID NO: 18) presenilin associated membrane protein (PAMP), or a function-conservative variant fragment thereof wherein said variant is capable of: interacting with  $\alpha$ -,  $\beta$ - or  $\gamma$ -secretase cleavage products of  $\beta$ APP; interacting with presenilin 1 or presenilin 2; effecting  $\beta$ APP processing; or effecting *Notch/Glp1* signal transduction.

35. (Currently Amended) An isolated mutant presenilin associated membrane protein (PAMP), ~~or a fragment thereof, which is substantially homologous to~~ of human (SEQ ID NO: 14), mouse (SEQ ID NO: 16) or *D. melanogaster* (SEQ ID NO: 18) PAMP, wherein said mutant is at least 80% identical or 90% similar to the corresponding native protein.

36. (Currently Amended) The isolated mutant  
~~PAMP, or fragment thereof,~~ according to claim ~~[[39]]~~ 35, wherein  
said mutant PAMP is mutated such that the mutation results in  
biochemical changes ~~similar to those associated with mutations~~  
~~in presenilin 1, presenilin 2 or  $\beta$  amyloid precursor protein~~  
~~linked to familial Alzheimer's Disease in  $A\beta_{42}$  peptide levels,~~  
 $A\beta_{40}$  peptide levels, or  $A\beta_{42}/A\beta_{40}$  peptide ratio.

37. (Currently Amended) A isolated mutant human  
presenilin associated membrane protein (PAMP) (SEQ ID NO:14), ~~or~~  
~~a fragment thereof,~~ wherein said mutant PAMP comprises a  
mutation to an amino acid residue selected from the group  
consisting of D336, Y337, C230, and both D336 and Y337 ~~of human~~  
~~PAMP (SEQ ID NO:14).~~